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Attorneys for Plaintiffs

UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK

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USA BASEBALL, THE NATIONAL HIGH  
SCHOOL BASEBALL COACHES ASSOCIATION,  
DR. PETER BERG, JUAN HERNANDEZ, DENNIS  
CANALE, MEL ZITTER, MICHAEL CRUZ, TITO  
NAVARRO, JOHN TORRES, EASTON SPORTS,  
INC., WILSON SPORTING GOODS CO.,  
RAWLINGS SPORTING GOODS COMPANY, and  
HILLERICH & BRADSBY CO.

Plaintiffs,

- against -

Civil Action No. 07-CV-3605

CITY OF NEW YORK,

Defendant.

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**SECOND DECLARATION OF DEWEY CHAUVIN**

I, Dewey Chauvin, state as follows:

1. I am the Director of Baseball Bat Engineering for Easton Sports, Inc. (“Easton”). I have held this position for 7 years. I have worked in the production and manufacture of baseball bats for over 14 years, and have worked with the NCAA on its regulation of bats. I also have experience in analyzing reaction time. Prior to my employment at Easton, I was employed by Hughes Aircraft. As part of my responsibilities at Hughes Aircraft, I worked with human factors experts who performed reaction time studies. I attended both the October 23, 2006 and March 12, 2007 New York City Council hearings with regard to the ordinance to ban metal and nonwood composite bats (“Bat Ordinance”), and have reviewed the Legislative record relating to that ordinance. If sworn as a witness, I could testify competently to the facts herein, either from my personal knowledge or (where indicated below) based on my review of the legislative record.

### **The “Sweet Spot”**

2. Bat manufacturers like Easton devote significant effort to designing our bats so that they have a larger “sweet spot,” the area within which a good hit can be achieved and contact can be made with the ball without a significant “sting” or vibration. This makes the bats more effective for the less skilled players and more fun to use.

3. The larger sweet spot is not in any way an inherent characteristic of metal or nonwood composite bats. It has been specifically engineered into many bat models by Easton and others as a result of extensive research and manufacturing development. Earlier models of metal bats had smaller sweet spots, as do some of the less expensive models sold today. If we were instructed to make more bats with smaller sweet spots, we could certainly do so.

### **NCAA and NFHS Regulations**

4. I have reviewed the Declaration of Lara Popa, and I believe that declaration misstates both the facts of many events with which I'm familiar and the evidence contained in the Legislative record. This is true, for example, of her description of the origin of the current bat regulations utilized by the National Collegiate Athletic Association ("NCAA") and National Federation of High Schools ("NFHS").

5. It is true that the NCAA and NFHS regulations today are different from what was proposed at one point in 1998, and there was litigation concerning the 1998 protocol brought by Easton. However, she does not explain that as a result of the litigation, the NCAA appointed a Baseball Research Panel, composed of, among others, leading scientists in the fields of physics, engineering and biomechanics, to develop a scientifically based regulation. Ex. A at NYC0000101. The current regulations are the results of the recommendations of the Baseball Research Panel, and its continuing oversight and recommendations from 1999 to the present. The Baseball Research Panel is still active and regularly reviews NCAA baseball performance and safety and the state of knowledge of bat performance in advising the NCAA on its regulations.

6. The original 1998 regulations were replaced because they were not formulated with the aid of any independent scientists, and as a result were based on gross and elementary scientific errors. The original proposed NCAA protocol was intended to create a "speed limit" for bats at 93 mph. This number was arrived at by the NCAA's Baseball Rules Committee, a group of athletic directors, not including any scientists and without the advice of any independent scientists. The Rules Committee over the course of several days vacillated in the relevant "speed limit" from 97 to 95 to 93 mph. See Ex. B at NYC0002792 (voting to set limit at

95mph); Ex. C at NYC0002796 (changing limit from 97 mph to 93 mph and explaining process above).

7. The 93 mph speed limit was ultimately chosen because of an allegation that a pitcher only had 400 milliseconds (.4 seconds) to react to a batted ball, and the belief that a batted ball with an exit velocity off the bat of 93 mph would reach the pitcher in 400 milliseconds. See Ex. C at NYC0002796. But both of these conclusions were incorrect. As the NCAA has admitted, see Ex. D at NYC0003432, the 400 millisecond number was a speculation that did not correspond to any of the research available on the reaction time. Ex. D at NYC0003430, NYC0003432. As the NCAA has also acknowledged, the 93 mph number was derived only after ignoring the effect of air resistance on batted balls. *Id.* at NYC0003432. In fact, once air resistance is factored in, a batted ball with an exit velocity of 97 mph, not 93 mph, would reach the pitcher in 400 milliseconds. That is because the difference in the exit velocity of a batted ball and the average batted ball velocity of a ball hit at 97 mph means that the ball reaches the pitcher 4 mph slower due to air resistance.

8. Ms. Popa cites in her declaration an early (pre Baseball Research Panel) NCAA memorandum stating that “the experts” referred to a .4 second reaction time and 93 mph. Later investigation revealed that these “experts” were two nonscientists who were opposed to metal bats because they were trying to sell competing wood and wood composite bats. One of these individuals, Steve Baum, is an accountant who later sued the NCAA and the manufacturers claiming a conspiracy. Mr. Baum tried to testify as an expert in his own case brought against the NCAA and the bat companies, but the court excluded his testimony on physics, bat safety and

the NCAA standard because he did not have the requisite expertise. See Ex. E at NYC0000854-857.

9. The other so-called expert referred to in the NCAA memorandum was Jack MacKay, a gentleman who flunked out of college, misstated those facts on his resume, and who, among other things, was found liable for securities fraud. See Ex. F at NYC0001427, Ex. G at NYC0001437. Mr. MacKay also informed the NCAA that he had a computer program that would predict bat velocity. See Ex. H (NYC0002798). When later questioned, he admitted that he did not have a computer program. See Ex. G (NYC0001440).

10. The Baseball Research Panel recognized these mistakes and made its own evaluation of the batted ball issue. The Panel developed a new standard, not based upon a simple speed limit, but a new concept it developed call the Ball Exit Speed Ratio or "BESR." The BESR is a mathematical method of normalizing a test for swing speed and pitch speed, and recognizes the fact that the batted ball speed depends upon those factors. Therefore, the Baseball Research Panel concluded, any limit on batted ball performance should not be a single exit speed number, but should be ratio that reflects the relationship between pitch and swing speed and batted ball speed. That is the BESR. See Ex. I (Dr. James Ashton-Miller, Dr. Michael Carroll, Dr. Kenneth Johnson, Dr. Alan Nathan, NCAA Baseball Research Patel, "The BESR (Ball Exit Speed Ratio)."

11. The BESR was not devised by Easton or any other manufacturer. In fact, I had never heard of the concept until it was introduced by the Baseball Research Panel.

**Bat MOI**

12. Over time, there have been a number of further changes in the batted ball regulations adopted by the NCAA and NFHS. Easton has disagreed with many of these, but we have followed these regulations in producing our bats. These changes have included a “sliding scale differential,” which adjusts the BESR limit downward for shorter (and therefore lighter) bats. See Ex. J at NYC0000636. This reflects the allegation of some that heavier bats or bats with a greater “moment of inertia,” may hit the ball harder, at least on the original testing apparatus.

13. In fact, research shows that in the field, lighter bats are swung faster, but bring less mass to bear on the ball. Heavier bats bring more mass, but are swung more slowly. The net effect of these offsetting factors largely cancels out, and there is little if any difference in the field between the batted ball speeds of heavier and lighter bats. This is confirmed by empirical research done by scientists such as Watts and Bahill. See Watts and Bahill, “Keep Your Eye on the Ball,” Ex. K at p. 109.

14. Ms. Popa quotes the record in a very misleading way on this issue. It is true that other things being equal, higher bat swing speed leads to higher batted ball speed. (See Popa Decl. at ¶ 21). But, as I indicated above, while a bat with a lower MOI may be swung faster, it provides less mass on the ball, and these effects are offsetting. This is the view for example, of Dr. Alan Nathan, who the Popa declaration miscites on this and other issues. See Ex. L, Alan M. Nathan, “Wood versus Aluminum Bats,” April 16, 2007.

15. Ms. Popa states correctly that the MOI limits in the NCAA rule were established to permit the metal bats used in 2000 to be legal under those rules. That was done because the

NCAA carefully reviewed the status of baseball in 2000, and concluded that it was very happy with the safety and offensive balance of the game. It adopted an MOI standard that would not permit less end-heavy bats as compared to that year, because it was satisfied with the bats used in that year. See Ex. J, NYC0000636.

16. The NCAA/NFHS testing procedure involves a careful test of each non-wood bat model to determine its exit speed as compared to the exit speed of the best major league wood bats. Thus, there is a direct comparison between each approved nonwood bat and wood bats. The NCAA/NFHS testing procedure is the same testing utilized by Major League Baseball. See Ex. M at NYC0000561. As a result, the nonwood bats used in high school play today have performance very similar to, if not identical to, wood bats.

### **Reaction Time**

17. I know that the City Council heard testimony from parents about tragic injuries that occurred to pitchers from batted balls. However, these injuries have also occurred from balls batted off wood bats. See Ex. N, NYC0000063; Decl. of D. Kirby (noting deaths from balls hit off woods bats). In fact, because wood bats frequently break, they create their own safety issues. Ex. O at NYC0000057; Decl. of M. Cruz.

18. For example, I heard John Franco testify at a hearing on the Bat Ordinance about a player being hit by a line drive off a wood bat. See Ex. P at NYC0003499. Mr. Franco also noted that “I’ve been hit plenty of times with wood and aluminum, it still hurts no matter where you get hit from . . .” NYC0003500. Many coaches testified at the hearings that they do not believe that aluminum bats hit the ball faster or create a safety issue. Ex. P at NYC0003509-3516. In fact, the Catholic High School Athletic Association and Public School Athletic League

both opposed the bat ordinance. See Ex. P at NYC0003505-3516 (testimony of Walter Stangfel and Steve Mandl); Ex. Q at NYC0000221-226 (testimony of Marty Oestreicher).

19. As Kevin Breen states in his declaration, a prepared pitcher can react to a batted ball at any speed that is alleged to occur in baseball. However, pitchers can always make mistakes, use bad form, or otherwise be unprepared. If that is true, they will not have enough time to react from their mistakes, whether the ball is batted off of wood or aluminum bat.

### **Batted Ball Speed**

20. Ms. Popa in her declaration cites to statements by Drs. Nathan and Russell to the effect that metal bats may outhit wood bats. But she fails to put this in the context of Drs. Nathan's and Russell's other statements, which make quite clear that they do not believe there is any reason for concern about today's bats. That is because this very small theoretical difference (5 mph or less) is insufficient to give the pitcher a materially greater time to react if he has made a mistake. See Declaration of Kevin Breen.

21. For example, Dr. Nathan states in his 2003 statement referenced in Ms. Popa's declaration that "the NCAA has succeeded in at least putting a cap on how much better aluminum can perform relative to wood. Indeed, the NCAA seems quite satisfied that the recent rule changes have had the desired effect of lowering offensive statistics . . ." "Some Thoughts on Wood v Aluminum Bats" (January 10, 2003). (Ex. D-11 to Horowitz Decl.)

22. Dr. Russell in his piece cited by Ms. Popa in ¶ 19 refers to a study of pre-BESR metal bats which outhit wood, and then says in bold "the bats used in his study are not representative of aluminum bats allowed for use at high school and college levels under current NCAA rules. None of the five aluminum bats in this study would be legal today." See Ex. D-13

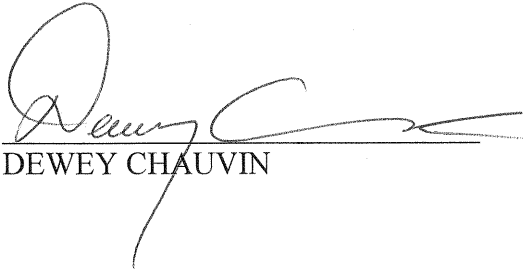


to the Horowitz Decl., Greenwald Decl. at ¶ 5 (relating to same study). Dr. Russell also states in an article not cited by Ms. Popa that “[t]here are several performance advantages that metal bats have over wood, but none of these advantages mean that metal bats hit balls with dangerously high speeds . . . [t]he difference in arrival times between a ball hit by a wood bat and a ball hit by a high performance NCAA approved metal bat is only one-fifth of the time required to blink an eye . . . Metal baseball bats currently legal for play under NCAA and NFHS regulations do not pose a safety risk . . .” See Ex. R at 6, 9.

23. The New York City Council’s suggestion that the metal and nonwood composite bats sold by Easton are unsafe threatens to seriously damage our reputation. The legislation at issue has sparked media attention across the country. Easton has kept a file of these stories, many of which simply parrot the unfounded and unsupported allegation that our bats are unsafe.

24. I declare under penalty of perjury that the foregoing is true and correct.

This 29<sup>th</sup> day of June, 2007.

  
DEWEY CHAUVIN